

UNCLASSIFIED

**Initial Capabilities Document (ICD)**

**FOR**

**JOINT HIGH SPEED INTRA-THEATER SURFACE LIFT**

## TABLE OF CONTENTS

1. Joint Capability Area .....	3
2. Required Capability .....	3
3. Concept of Operations Summary .....	7
4. Capability Gap .....	12
5. Threat/Operational Environment .....	15
6. Functional Analysis Solutions Summary .....	16
7. Final Materiel Recommendations .....	19
Appendix A. Integrated Architecture Products .....	TBI
Appendix B. Functional Area Analysis, Functional Needs Analysis, and Functional Solutions Analysis for Joint Intratheater High Speed Surface Lift.....	TBI
Appendix C. References .....	23
Appendix D. Acronym List .....	25
Appendix E. Universal Joint Task List (UJTL) – Strategic Level Theater Tasks and Operational Level Tasks.....	27
Appendix F. High Speed Intratheater Surface Connector Lessons Learned.....	32
Appendix G. U.S. Army Theater Support Vessel ACTD Management Plan .....	TBI
Appendix H. U.S. Army Theater Support Vessel AROC-approved Operational Requirements Document .....	TBI

52  
53  
54 **1. Joint Capability Area.** This document has been developed in concert with the joint  
55 capability areas of Focused Logistics, Force Management, and Force Application and addresses  
56 capabilities identified in the *Joint Operations Concepts* (JOpsC), the *Naval Operating Concept*  
57 *for Joint Operations* (NOC), the *Operational Concepts for the Campaign Quality Army*, and the  
58 *Seabasing Joint Integrating Concept (Seabasing JIC) (Draft)*. This document has been  
59 developed to address high-speed intra-theater surface lift capability gap identified to implement  
60 Sea Power 21 and the Army Future Force operational concepts. This capability should be  
61 relevant across the range of military operations, providing the Regional Combatant Commanders  
62 (RCCs) the ability to meet the demands of combating the Global War on Terrorism (GWOT),  
63 execute the RCC Theater Security Cooperation Plan (TSCP), while simultaneously  
64 implementing the Sea Power 21 and Army Future Force expeditionary operational concepts.  
65 Specifically, high-speed intra-theater surface lift can help provide the capability to “rapidly  
66 deploy selected portions of the Joint Force that can immediately transition to execution, even in  
67 the absence of developed infrastructure,”<sup>1</sup> and “conduct deployment and sustainment activities in  
68 support of multiple simultaneous, distributed, decentralized battles and campaigns.”<sup>2</sup> This  
69 capability addresses the attributes of speed, access and persistence necessary to conduct  
70 expeditionary, networked, distributed, agile and adaptable operations as defined in JOpsC.  
71 Planning for this capability must begin now to ensure the capabilities exist in 2010 through 2034.

---

<sup>1</sup> *Joint Operations Concepts*, Department of Defense, November 2003, para 3.A.4

<sup>2</sup> *Ibid.*, para 3.A.7

74 **2. Required Capability**

75 a. The capability gap identified in this ICD exists in the primary joint capability area of  
76 Focused Logistics. As Focused Logistics enables the joint capability areas of Force  
77 Management and Force Application, so do the capabilities addressed in this ICD. Embedded  
78 within Force Application is the prerequisite for military capabilities that assure timely access  
79 for joint forces to littoral regions. The littoral region includes an area of control extending  
80 from a transition point from open ocean, to more constrictive and shallower waters, to the  
81 shore, and to those inland areas that can be attacked, supported and defended directly from  
82 the sea. Current joint operations are heavily dependent on in-theater, shore-based  
83 infrastructure to bring significant US combat power to bear for a sustained period of time.  
84 For operations where this infrastructure does not exist or where anti-access or area denial  
85 effort occurs, warfighting success depends on sea-based and littoral land maneuver forces  
86 that do not require advance bases or the establishment of a secure port or airfield ashore in  
87 order to accomplish the mission.

88 b. The capability to project and sustain US Forces in distant anti-access or area denial  
89 environments and defeat anti-access and area denial strategies is a priority established in the  
90 National Military Strategy of the United States, the Quadrennial Defense Review, the  
91 Defense Planning Guidance and the Seabasing Joint Integrating Concept.<sup>3</sup> As validated in  
92 the U.S. Navy POM-06 and PR-07 analyses<sup>4</sup> and the Total Army Analysis 2011 process,<sup>5</sup>  
93 Joint Force Commanders (JFCs) can be supported by a multi-mission, high-speed intra-  
94 theater surface platform capable of supporting Joint sea-based naval and land-based

---

<sup>3</sup> *Seabasing Joint Integrating Concept (Draft)*, Ver 0.71, The Joint Staff

<sup>4</sup> U.S. Navy POM-06, *Seabasing NCP*, 30 October 2003; U.S. Navy PR-07, *MCP*, December 2004

<sup>5</sup> The Total Army Analysis process results in the *Army Modernization Plan*

expeditionary operations. This capability can support force closure, deployment, employment, sustainment, rehabilitation, and re-deployment of joint forces operating over operational distances from joint sea and land bases. Further, the need for high-speed, shallow-draft intra-theater lift capability is documented in the *2003 Army Modernization Plan*<sup>6</sup> and the *Army Power Projection Program Master Plan*.<sup>7</sup> This capability has also been identified as a priority for Chief of Staff of the Army's (CSA) vision of a campaign quality Army with a Joint and expeditionary mindset. In his White Paper, *Serving a Nation at War*, the CSA supports development of a joint sea base and identifies the need for a cooperative effort to address the intra-theater lift challenges faced by the Joint Force.<sup>8</sup> He further states, "Intra-theater lift will be especially crucial in a future conflict in which enemies may be able to obstruct or deny altogether the use of fixed entry points such as airfields and seaports."<sup>9</sup> From major combat operations through small-scale contingencies and presence/GWOT operations, JFCs require capability to rapidly project power while overcoming decreased access to host nation facilities.<sup>10</sup> JFCs need the capability to operate independent of host nation infrastructure yet rapidly deliver and sustain forces. JFCs maneuvering forces at the operational level must have the capabilities to project massed offensive and defensive naval and land combat power at the time and place of their choosing, enabling the accelerated projection, and sustainment of joint forces.<sup>11</sup>

---

<sup>6</sup> *Army Modernization Plan, 2003*, Department of the Army, 2003

<sup>7</sup> *Army Power Projection Master Plan*, Department of the Army, 24 July 2002

<sup>8</sup> U.S. Army White Paper, *Serving a Nation at War: A Campaign Quality Army with a Joint and Expeditionary Mindset*, 29 March 2003, pg. 23

<sup>9</sup> *Ibid.*, Pg 22

<sup>10</sup> *Force Application Functional Concept*, The Joint Staff (J8), February 2004, pg.7

<sup>11</sup> *Ibid.*, pg. 9

c. Global War on Terrorism.. As seen in operations in Southeast Asia, the Arabian Gulf and the Horn of Africa, Combatant and Joint Force Commanders have required intra-theater littoral lift to support high-speed maneuver of combat ready personnel and their equipment. This capability should provide rapid deployment and maneuver of small, modular, task organized, and lethal sea and land-based force packages—both conventional and special operations forces—which can conduct distributed operations, strike rapidly over operational distances and have the persistence to remain on-station to effectively prosecute the ongoing GWOT.

d. Future Force Operations. The Army is transforming into a modular, more expeditionary Future Force focused on joint capabilities. The Army's joint and expeditionary Future Force requires the ability to immediately conduct distributed joint operations after arriving through multiple austere entry points. The Future Force is based on self-contained, agile, modular Brigade Combat Teams (BCTs) that are capable of rapid repositioning in ready-to fight configurations anywhere in the theater of operations.<sup>12</sup> As stated by the CSA, "...the nature of expeditionary operations argues for leveraging every potential tool of speed, operational reach and precision...being expeditionary is far less about deployability than about operational and tactical agility."<sup>13</sup> The CSA clearly identifies the Future Force capability gap in this regard when he states that current intra-theater lift assets do not have the "range, payload, or operational profiles" necessary to support this requirement.<sup>14</sup> A high-speed

---

<sup>12</sup> *The Army Future Force: Decisive 21<sup>st</sup> Century Landpower*, U.S. Army Training and Doctrine Command, August 2003

<sup>13</sup> U.S. Army White Paper, *Serving a Nation at War: A Campaign Quality Army with a Joint and Expeditionary Mindset*, 29 March 2003, pg. 6-11

<sup>14</sup> *Ibid*, pg. 22

shallow-draft surface lift capability should be developed to fill the intra-theater lift capability gap identified by the CSA.

e. Theater Security Cooperation Plan (TSCP) Support. High-speed shallow draft maneuver platforms have the potential to enable future RCC presence and TSCP strategies. These assets provide a non-intrusive peacetime sea-based presence that enables and expands the capability to conduct combined engagement activities and operations. This sea-based maritime capability enables enhanced presence of U.S. forces while minimizing presence ashore that might threaten the legitimacy and sovereignty of our allies and coalition partners. As part of the Regional Combatant Commanders Theater Security Cooperation Plan, high speed intra-theater surface lift could play an integral role in assuring access and providing our potential coalition partners with a platform able to seamlessly integrate with their security efforts. The primary trait in this role would be to deliver forces to austere and minor ports unreachable by larger ships. Additionally, with the use of smaller, more agile high-speed intra-theater surface lift in place of larger combatants, U.S. presence and cooperation could be expanded without the inherent obtrusiveness of larger surface combatants. As has been demonstrated during experimentation, the speed and mobility of high-speed intra-theater lift provides RCCs the opportunity to conduct smaller, more frequent engagements with coalition partners.<sup>15</sup>

---

<sup>15</sup> Appendix E of this ICD lists available Lessons Learned from experimentation conducted on *Swift* and *Joint Venture*.

f. Seabasing. Seabasing will form the cornerstone of our country's future naval force.<sup>16</sup>  
Seabasing, with the capability pillars of Sea Shield, Sea Strike, Sea Base, and FORCENet,  
coupled with the tenets of the Army Future Force<sup>17</sup> and the Marine Corps' Expeditionary  
Maneuver Warfare concept<sup>18</sup>, provides the Combatant Commander with persistent forward  
deterrence and operational capability to enable a wide range of armed responses to anti-  
access crises to lesser contingencies such as HA/DR. Combatant and Joint Force  
Commanders require the capability to project forces to the sea base, into the JOA from  
advanced bases and pre-positioning sites, and maintain the capability to conduct operational  
maneuver from land and sea bases.<sup>19</sup> Additionally, joint force and naval commanders require  
the capability to capitalize on the maneuver area offered by the sea in order to fully realize  
the operational potential of seabasing. The joint sea base will act as the springboard for  
forces employing Operational Maneuver From The Sea (OMFTS) and Ship To Objective  
Maneuver (STOM). The fully networked sea base will give the JFC a credible and enhanced  
response capability that enables force projection throughout the battlespace, while increasing  
the operational tempo, reach and flexibility of the Joint Force.<sup>20</sup>  
g. High speed intra-theater lift capability, combined with a robust organic C4I infrastructure,  
provides flexibility to RCCs and JFCs response to a range of mission areas. The capability

---

<sup>16</sup> *Sea Power 21*, Chief of Naval Operations, p.8

<sup>17</sup> U.S. Army White Paper, *Serving a Nation at War: A Campaign Quality Army with a Joint and Expeditionary Mindset*, 29 March 2003, Pg 23.

<sup>18</sup> *Expeditionary Maneuver Warfare*, Commandant of the Marine Corps, 10 November 2001

<sup>19</sup> *Seabasing Joint Integrating Concept (Draft)*, Ver 0.71, The Joint Staff, pp. 10-11.

<sup>20</sup> *Joint Forcible Entry Operations*, *Joint Integrating Concept*, Draft v .92A3, and *Focused Logistics Joint Functional Concept*, The Joint Staff (J4), December 2003, both address improving the flexibility of the commander by the use of highly maneuverable forces, in addition to expanding the maneuver space and decreasing response time.



to rapidly respond to requirements ranging from humanitarian assistance, drug interdiction, disaster relief, and homeland security through sustained operations ashore requires the ability to deploy, employ and sustain forces using a wide range of offload points to include austere and degraded ports, quay walls, fishing piers, floating causeways, and other points offering shallow draft access to a shoreline. As seen in Operation Unified Assistance, high speed intra-theater surface lift capability could provide the JFC with a flexible capability to transit shallow waters to conduct HA/DR operations where needed.

h. The requirement for the capability resident in high-speed, shallow draft, high-payload surface platforms, can be found in a range of missions and tasks in the Universal Joint Task List (UJTL), Universal Naval Task List (UNTL) and Army Universal Task List (AUTL). Appendix D provides a summary of these missions and tasks.

### **3. Concept of Operations Summary**

a. As described in the *Seabasing Joint Integrating Concept*<sup>21</sup>, the *High Speed Connector Enabling Concept*<sup>22</sup> and the *Theater Support Vessel Operational Requirements Document*,<sup>23</sup> high-speed intra-theater surface lift will provide a transformational capability. This capability supports the ongoing GWOT, RCC TSCP's, emerging operational concepts, including the Army Future Force and Seabasing, as well as emerging theater presence

---

<sup>21</sup> *Seabasing Joint Integrating Concept (Draft)*, Ver 0.71, 17 Dec 04, The Joint Staff

<sup>22</sup> *High Speed Connector Enabling Concept*, August 2004, Deputy Commandant, Combat Development, and Deputy Chief of Naval Operations for Warfare Requirements and Programs (N7).

<sup>23</sup> *Revised Operational Requirements Document for the Theater Support Vessel (TSV)* approved 16 April 2003 by the Army Requirements Oversight Council (AROC). The current version, including Joint Staffing comments, is dated 16 September 2004.

192 strategies by providing intra-theater littoral lift support for the maneuver of tailored, modular  
193 forces into areas where austere, unimproved or degraded port facilities limit the effectiveness  
194 of larger, slower surface transport. High-speed intra-theater lift could provide surface links  
195 between advanced bases to the sea base, forces operating ashore and play a supporting role in  
196 all phases of sea-based operations. This capability could be forward deployed to RCC  
197 AORs in order to provide responsive support in a range of operations from presence through  
198 combat support missions. This capability will also enhance the capability of RCCs to  
199 support the “forward stationing of additional expeditionary maritime capabilities to enable  
200 prompt and effective military action both regionally and globally.”<sup>24</sup> The capability may  
201 also be assigned to naval Expeditionary Strike Forces (ESFs)/Expeditionary Strike Groups  
202 (ESGs), Maritime Pre-positioning Groups (MPGs) and Army BCTs to support naval and  
203 joint force operations.

204  
205 b. The capability desired in high-speed, intra-theater sealift could enable the accelerated  
206 deployment and employment of maneuver forces.<sup>25</sup> This high-speed, intra-theater surface lift  
207 capability should compress deployment and employment timelines to accomplish ground  
208 combat power projection, without reliance on developed ports or airfields. The capability  
209 package envisioned should be fully integrated into FORCEnet, providing networked,  
210 distributed forces the ability to conduct en route collaborative mission planning and  
211 rehearsal. This capability could greatly enhance the tempo and effectiveness of  
212 expeditionary warfare from the sea and the littorals, enabling integrated phased at sea arrival

---

<sup>24</sup> President George Bush, 16 August 04.

<sup>25</sup> *Revised Operational Requirements Document for the Theater Support Vessel (TSV)*, 16 September 2004., pg 18

and assembly of a Marine Expeditionary Brigade (MEB) sized force, as well as other joint forces, including Army BCTs.

c. Special Operations Support. High-speed, shallow draft, surface lift capability offers the potential to enhance the conduct of special operations, especially in support of the GWOT by enabling the rapid projection, employment, and sustainment of special operations forces, independent of host-nation infrastructure. High-speed combined with shallow draft will enable the rapid delivery of SOF to insertion points farther forward, and closer to the target area, than possible with current platforms. Finally, high payload capacity should enable persistent SOF presence and operations by supporting the rapid and forward-based rearming, refueling and resupply of special operations teams. This could be a force multiplier, increasing the operational range and endurance of SOF forces while providing the JFC with the capability to conduct a wider range of special missions with fewer forces. The operational employment of an experimental vessel, HSV-X1 *Joint Venture*, provides insight to the future role of high-speed intra-theater lift in the SOF support role.<sup>26</sup>

d. Whether forward based, operating as an element of another unit,<sup>27</sup> or self-deploying from CONUS or other theaters, high speed intra-theater lift capability could enable the rapid projection, agile maneuver and sustainment of modular/tailored forces in response to a wide range of contingencies throughout the RCC's AOR. The attribute of high-speed combined with high payload capacity is critical in responding to a variety of small-scale operations

---

<sup>26</sup> *Joint Venture (HSV-X1) Final Report*, Officer-in-Charge, HSV-X1 JOINT VENTURE, 30 September 2003.

such as stability and security operations (SASO), embassy reinforcements, non-combatant evacuation operations (NEO), and humanitarian assistance and disaster relief operations (HA/DR). For example, in NEOs, high speed intra-theater lift could enable the rapid deployment of initial security forces as well as the transportation of evacuees to designated safe havens. In HA/DR, high speed intra-theater lift could provide the capability to rapidly deliver supplies and equipment to affected littoral regions, including areas where infrastructure has been damaged or destroyed by the disaster.

e. Sustainment. High-speed intra-theater lift could be integral to enabling joint operations, including expeditionary land- and sea-based maneuver operations. In this role, high speed intra-theater lift capability could provide a flexible, responsive link between advanced bases, ports and austere littoral access points and dispersed nodes of the sea base in support of Joint Forces operating ashore and afloat. High-speed intra-theater lift could provide a means to move personnel, equipment, and supplies between advance bases, the sea base, and to the shore for subsequent operations at speeds significantly higher than possible with current watercraft and shipping. While interfacing at sea with a variety of air, surface and sub-surface platforms, this capability could provide the link that completes a seamless distribution system supporting the transfer of personnel, equipment and supplies within the sea base and between shore based units utilizing littoral access points by interfacing with over-the-shore capabilities. This system could enable the agile redistribution of assets within the network of platforms making up the sea base and the nodes of the theater distribution

---

<sup>27</sup> This may include units such as: Maritime Prepositioning Group (MPG), Expeditionary Strike Force (ESF), Expeditionary Strike Group (ESG), Carrier Strike Group (CSG), Army Units of Employment (UEy, UEx), or Army Theater Support Command (TSC).

system, providing the Joint Force Commander with the flexibility to rapidly tailor forces and provide support to emerging missions. Specifically, high speed intra-theater lift capability will be developed to interface with Maritime Prepositioning Force (Future) and the Army Regional Flotilla (ARF) platforms to ensure interoperability. Flexible ramp designs, emerging rapid port enhancement technologies, and lightweight ship-to-ship and ship-to-shore interface technologies will enable the offload of supplies and equipment to a large portion of the world's littoral region.

f. While lacking a forcible entry capability and reliant on the protection of Sea Shield, high speed intra-theater lift could provide the JFC a means to rapidly maneuver forces throughout the littoral region and allow for the uninterrupted flow of sustainment to minor, degraded or austere ports independent of constricted and potentially vulnerable land main supply routes (MSRs). This capability could provide a platform that enables the rapid, selective offload of equipment and supplies to provide modular, tailored support packages for movement directly to dispersed forces ashore. High speed intra-theater lift capability could leverage their inherent speed, maneuverability and flexibility to operate in the locations offering the most favorable environmental and threat conditions to off-load troops, equipment and cargo.

g. In addition to supporting the deployment, employment and sustainment of sea based and littoral maneuver operations, high-speed shallow draft surface vessels could also support the reconstitution and rehabilitation of joint forces. The ability to support rapid withdrawal, repositioning, and reemployment of maneuver forces could provide the JFC with unprecedented ability to manipulate the displacement of enemy forces. As the tactical

situation develops, this capability could allow the JFC to rapidly recover forces to the sea base, or other littoral locations, and maintain a higher operational tempo than previously possible.

**4. Capability Gap.** Current DoD force structure lacks the capability needed to enable the rapid maneuver of modular, tailored force packages in support of the GWOT, TSCP, and the Seabasing concept. High-speed intratheater surface lift, as defined in this ICD, with its inherent speed, access, and payload, has the capability to enable success of the GWOT and future sea-based operations. The Defense Science Board Task Force on Seabasing and the draft Seabasing Joint Integrating Concept (JIC) identified the ability to transport personnel from advance bases to operating areas within a theater as a critical need, and identifies high-speed intratheater surface lift as a potential means of addressing this need.<sup>28</sup> Combatant Commanders have identified a current and future need for high-speed intratheater surface lift to support the GWOT and promote the TSCP. Several Combatant Commander Integrated Priority Lists (IPLs) identify high-speed intratheater surface lift as a critical gap in their ability to support the GWOT, their TSCP, and provide high-speed intratheater lift for current operations.<sup>29</sup> The Chief of Naval Operations POM-06 analysis indicated a capability gap in the ability to transport personnel, equipment, and supplies within a theater of operations.<sup>30</sup> Additionally, the Army in the TSV Operational Requirements Document and supporting analysis identifies a similar gap in capability to move

---

<sup>28</sup> The Seabasing JIC states, "The importance of rapid intratheater medium/heavy lift cannot be overemphasized." *Seabasing JIC (Draft)*, Ver 0.71, Pg 21. Additionally, The *Defense Science Board Task Force On Seabasing Report*, August 2003, pg. 81, and the Naval Research Advisory Committee (NRAC) presentation to ASN (RD&A), 4 August 2004, identified high-speed shallow draft intra-theater lift as a critical capability required to enable Seabasing.

<sup>29</sup> Combatant Commander IPLs for FY07-11.

<sup>30</sup> OPNAV N703 POM-06 Analysis Brief, 30 October 2003.

personnel, equipment and supplies within a theater.<sup>31</sup> The merger of Army's TSV program with the Navy's HSC program could answer the requirement for the rapid intra-theater heavy/medium lift capability identified above. The Army TSV-ACTD and Naval experimental vessels (TSV-1X *Spearhead*; HSV-X1 *Joint Venture*, HSV-2 *Swift*, and M/V *Westpac Express*) have demonstrated many of the capabilities addressed in this ICD and the experience gained through collaboration between the Army, Navy, and Marine Corps, both in operational employment and experimentation, and the analysis of those efforts, could be invaluable to the development of a capability to address the identified gap.<sup>32</sup>

## **5. Threat/Operational Environment**

a. **Threat.** The U.S. Navy's global maritime dominance provided by Sea Strike and Sea Shield will provide a secure maneuver space for U.S. forces of the future.<sup>33</sup> High speed intra-theater lift capability is not intended to overcome any specific threat, but rather to support joint expeditionary forces over the entire spectrum of operations. This capability will introduce the enabler of speed to operations that will span the spectrum from advanced force operations to austere port operations and intra-theater lift to selective offload and reconstitution at sea to maneuver ashore.

b. **Operational Environment.** High-speed intra-theater lift capability may support a range of forward deployed forces, including ESFs/ESGs, MPGs, UE(x/y)s, and BCTs. Operations

---

<sup>31</sup> *Revised Operational Requirements Document for the Theater Support Vessel (TSV)*, U.S. Army, 16 September 2004

<sup>32</sup> Appendix E of this ICD contains a list of lessons learned and technical reports on HSV experimentation.

will be conducted in permissive and uncertain environments under the protective umbrella of Sea Shield. The envisioned platform will likely include basic self-defense and anti-terrorism/force protection (AT/FP) capability, including crew-served weapons, small arms, and non-lethal systems, to defend against localized direct threats and terrorist type threats it may encounter while employed in a variety of operations worldwide.

## **6. Functional Solution Analysis Summary**

a. DOTMLPF Analysis. A Doctrine, Organization, Training, Materiel, Leadership, Personnel and Facilities (DOTMLPF) analysis was conducted by the Commanding General, Marine Corps Combat Development Command (CG MCCDC) and the Army Chief of Transportation (COT). Wide spectrums of DOTMLPF alternatives were analyzed for both individual and collective utility in mitigating the identified capability gaps and achieving the overarching objectives detailed in this document. The analysis concluded that this capability shortfall could not be met by non-materiel solutions and requires a materiel solution. A high speed intra-theater surface lift capability is required to meet the operational and logistics needs of joint and naval forces as articulated in the Chief of Naval Operations', *Seapower 21*, the Commandant of the Marine Corps' *Marine Strategy 21* and the United States Army White Paper *Concepts for the Objective Force*, and *The 2003 Army Modernization Plan*. Based on the vision described in these documents, changing doctrine, concepts, tactics, organization, or training alone will not meet the future requirement of expeditionary force

---

<sup>33</sup> See *Sea Power 21* for a description of the Sea Shield and Sea Strike concepts.



projection and sustainment from the sea. The analysis directed a capabilities document be developed to support the requirements generation process.

b. Ideas for Materiel Approaches. The following alternatives were analyzed for their applicability in resolving the materiel need for the high-speed intra-theater surface lift capability.

(1) In-service Surface Craft. Current assets available to the JFC do not enable the combined attributes of high-speed maneuver over operational distances, operationally relevant payload capacity and the capability to access austere ports. Current sea-based and littoral mobility operations rely on either high-payload, relatively slow watercraft, such as the LCU-1600, LCU-2000 and LSVs, or high-speed, relatively low payload landing craft, such as the LCAC. Larger ships, such as amphibious shipping, prepositioning ships and other cargo/RORO ships, are relatively slow and are limited to operating in deep draft, major ports. Additionally, the cost and limitations associated with using limited amphibious ships, surface combatants, and submarines to conduct the operations described previously dictate that a lower cost, technologically advanced platform be developed.

a) LCU-1600. The LCU-1600 provides a forcible entry and to the beach offload capability. However, LCU-1600s are limited to 12 knots, and can deliver only 1850 square feet, or 147 tons of payload.

b) LCAC. LCACs provide the capability to transport personnel and equipment over the beach. While LCACs can attain speeds of over 40 knots, they are limited in range to 200nm while at 40kts and a payload of 60 - 75 tons or 1809 square feet of cargo storage space. LCAC Service Life Extension Program (SLEP) will reach the end of its Economic Useful Life (EUL) by 2025.

c) LCU-2000 and LSV. While these vessels have a significantly higher payload capacity than LCU-1600s and LCACs, LCU-2000s and LSVs are limited to 10 knots and therefore do not have the speed necessary to meet future force requirements. Additionally, the majority of these craft will reach the end of their EUL starting in 2013 and are scheduled to be completely out of the inventory by 2018.

(2) Improved Surface Craft. The TSV-ACTD and HSV provide many of the capabilities addressed in this RD. They do not, however, possess the requisite speed, range, payload, or mission capacity as potentially required in the objective solution. The TSV-ACTD is optimized to conduct rapid port-to-port intra-theater movements, but does not have the capability to conduct flight operations, nor is it designed to support boat and unmanned sensor operations. These capabilities, to include the ability to support ship-to-ship and ship-to-causeway operations, are required to support joint force operations

(3) In-service Amphibious Ships. Although current amphibious shipping has the attributes of high-payload capacity, More Survivability than self-defense amphibious shipping does not include the ability to conduct high-speed maneuver in restricted littoral

environments. Additionally, the expense and limited assets available make these ships uneconomical alternatives to development of a smaller, high-speed capability with access to austere, minor, or degraded ports.

(4) New Surface Combatants. Current designs for new surface combatants are limited in their passenger and payload capacity. Current requirements documents indicate LCS will carry less than 20 percent of the payload and passengers required to support the anticipated modular and tailored force packages discussed in this document.

Additionally, the LCS hull form is designed to support direct combat action. The concept for a high-speed intra-theater surface lift does not presuppose the need for the robust design standard required for a combatant.

(5) New Logistics Force Ships. The concepts for new logistics force ships are still in their infancy. Anticipated designs, however, do not meet the requirements addressed in this document. Specifically, they do not combine all of the attributes required to support the GWOT or TSCP missions, including speed, agility, and capability to operate in unimproved, degraded, or austere ports.

(6) The platforms listed above lack the capabilities required for the future maneuver requirements of the joint force. These capabilities include a flight deck, C4I suite, payload capacity to move company-sized units with their equipment, the ability to transport non-self-deploying rotary wing aircraft, and the ability to rapidly launch and recover small boats (such as CRRCs, RACs, RRCs, and SOC-Riverine) and offboard unmanned vehicles (e.g., UUVs and UAVs).

## **7. Final Materiel Recommendations**

- 407
- 408 a. The capability described in this ICD provides a link between enabling small scale
- 409 engagement and contingency operations and supporting large scale sea-based on littoral land-
- 410 based operations. The capability described herein also enables forces conducting widely
- 411 dispersed networked operations to mass quickly if necessary. The current state of technology
- 412 allows for the rapid acquisition of high-speed shallow draft intra-theater surface vessels that
- 413 will both provide near term support to Regional Combatant Commanders and meet the future
- 414 force projection needs of the sea-based and expeditionary land maneuver forces.
- 415 Experimentation conducted to date with four leased modified commercial platforms,
- 416 demonstrations on other commercially available technologies, the Army's Advanced Concept
- 417 Technology Demonstrator, as well as lessons learned during operational employment of these
- 418 platforms in support of Operation IRAQI FREEDOM, JTF Horn of Africa and Operation
- 419 UNIFIED ASSISTANCE clearly validate the military utility of these vessels and the maturity
- 420 of the technology.<sup>34</sup>
- 421
- 422 b. Experimentation has also identified several areas where the continued development is
- 423 needed, in partnership with the commercial sector, to develop solutions to better support
- 424 military requirements. As such, spiral development of these vessels is desired. Spiral
- 425 development will allow today's RCCs to reap the immediate benefit of a proven technology,
- 426 while allowing industry to continue to develop new solutions and systems as they grow to
- 427 better understand the requirements of military employment of high-speed vessels. Specific
- 428 areas requiring continued R&D efforts include ship-to-ship interface capabilities to support

---

<sup>34</sup> Appendix E of this ICD contains a list of lessons learned and technical reports.

at-sea transfers of personnel, equipment and supplies; fendering systems; ramp design for the conduct of austere and lighterage operations; the ability to off-load to a bare beach with beach interface systems; and the development of a container handling capability organic to the platform.

c. To the maximum extent feasible, the development of high-speed intra-theater lift capability should leverage the efforts of the TSV and HSC programs. However, it must be recognized that analysis of these programs, as detailed in the Functional Solutions Analysis, indicates that, individually, neither of these vessels as currently designed meet the needs of the RCC's. High-speed intra-theater lift capability will be developed from the synergy of the lessons learned and emergent technologies demonstrated by these efforts in order to fill the Joint capability gap.

d. The introduction high-speed shallow draft intra-theater surface lift capability will have nonmaterial (DOTMLPF) implications for the Army and Naval services. Most significantly, the introduction of this capability will require a revision of current doctrine and procedures for conducting and supporting sea-based operations, operational maneuver, and sustainment. These potential revisions are currently being assessed as part of the Joint Seabasing and Joint Logistics operational concept development process. Manning, training, and command and control issues will also need to be addressed.

451 Mandatory Appendices:

452 Appendix A. Integrated Architecture Products

453 Appendix B. Functional Area Analysis, Functional Needs Analysis, and Functional Solution

454 Analysis for Joint High Speed Intratheater Surface Lift

455 Appendix C. References.

456 Appendix D. Acronym List.

457 Appendix E. Universal Joint Task List, Army Universal Task List, and Universal Naval Task

458 List

459  
460 Appendix F. High Speed Intratheater Surface Connector Lessons Learned

461  
462 Appendix G. U.S. Army Theater Support Vessel ACTD Management Plan

463  
464 Appendix H. U.S. Army Theater Support Vessel AROC-approved Operational  
465 Requirements Document

**APPENDIX B**

**REFERENCES**

1. The National Security Strategy of the United States, President George W. Bush, September 2002
2. National Military Strategy of the United States 2004, Chairman Joint Chiefs of Staff, 2004
3. Joint Vision 2020, Chairman of the Joint Chiefs of Staff, June 2000
4. Department of Defense Transformation Planning Guidance, April 2003
5. Department of Defense Joint Operating Concepts, November 2003
6. Naval Operating Concept for Joint Operations, Chief of Naval Operations, Commandant of the Marine Corps, 2003
7. Sea Power 21, Chief of Naval Operations, October 2002
8. Marine Corps Strategy 21, Commandant of the Marine Corps, July 1999
9. U.S. Army White Paper: Serving a Nation at War, A Campaign Quality Army with a Joint and Expeditionary Mindset, U.S. Army Chief of Staff, 2004
10. Operational Concepts for the Campaign Quality Army
11. Naval Transformation Roadmap 2003, Secretary of the Navy
12. Expeditionary Maneuver Warfare, Commandant of the Marine Corps, 10 November 2001
13. Expeditionary Maneuver Warfare Capability List 2003, Deputy Commandant, Combat Development, 16 June 2003
14. Enhanced Networked Seabasing, Commanding General, Marine Corps Combat Development Command and Commander Navy Warfare Development Command, 2002
15. Defense Science Board Task Force on Sea Basing, Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, August 2003
16. OPNAV POM 0-6 Analysis
17. Sea Basing Concept of Operations (Draft), 11 March 2004
18. Joint Forceable Entry Operations Joint Integrating Concept (Draft Ver .92A3), 15 September 2004
19. Universal Joint Task List, CJCSM 3500.04C, 1 July 2002
20. Universal Naval Task List OPNAVINST 3500.38A
21. Ship-To-Objective Maneuver, Commanding General, Marine Corps Combat Development Command, 25 July 1997
22. Operational Maneuver From the Sea, Commandant of the Marine Corps Application Functional Concept, Department of Defense, February 2004
24. Seabasing Joint Integrating Concept (Draft V .71), 17 December 2004
25. Focused Logistics Joint Functional Concept, V1.0, December 2003
26. Joint Command and Control Functional Concept (Draft)
27. Protection Joint Functional Concept, V1.0, 31 December 2003
28. Major Combat Operations Joint Operating Concept (Draft), V1.11, 9 September 2004
29. Security, Transition, and Reconstruction Operations Joint Operating Concept (Draft), V1.06, 8 June 2004
30. Enabling Concept for High Speed Connectors, Deputy Commandant of the Marine Corps, Combat Development, Deputy Chief of Naval Operations, Warfare Requirements and Programs, 20 August 2004
31. Army Campaign Plan, Deputy Army Chief of Staff G-3, 12 April 2004

- 513 32. The Army Future Force: Decisive 21<sup>st</sup> Century Land Power, Commanding General U.S.
- 514 Army Training and Doctrine Command, August 2003
- 515 33. Army Power Projection Master Plan, 24 July 2002
- 516 34. Revised Operational Requirements Document for the Theater Support Vessel, 16 September
- 517 2004
- 518 35. U.S. Army Watercraft Master Plan, 2004
- 519 36. Offshore Force Projection Operations, U.S. Army Deployment Process Modernization
- 520 Office, June 2001
- 521 37. Chairman Joint Chiefs of Staff Instruction, CJCSI 3170.01D, dated 12 March 2004
- 522 38. Chairman Joint Chiefs of Staff Manual, CJCSM 3170.01A, dated 12 March 2004
- 523 39. Homeland Security Joint Operating Concept, February 2004
- 524 40. Joint Distribution Joint Integrating Concept (Draft), January 2005
- 525 41. Deputy Chief of Naval Operations, Warfare Requirements and Programs (N6/N7) Letter
- 526 9000 Serial N6/N7/U598138, dated 29 October 2003
- 527 42. President George W. Bush POTUS Statement, September 2004
- 528
- 529



**APPENDIX C**

**ACRONYMS**

534	ACTD	Advanced Concept Technology Demonstration
535	AFSB	Afloat Forward Staging Base
536	AMA	Analysis of Materiel Approaches
537	AOA	Analysis of Alternatives
538	AOR	Area Of Responsibility
539	ARF	Army Regional Flotilla
540	ASCC	Army Service Component Command
541	AUTL	Army Universal Task List
542	BCT	Brigade Combat Team
543	C2	Command and Control
544	C4I	Command, Control, Communications, Computers, and Intelligence
545	CONUS	Continental United States
546	COT	Army Chief of Transportation
547	CRRC	Combat Rubber Raiding Craft
548	CS	Civil Support
549	CSA	Chief of Staff, U.S. Army
550	DOTMLPF	Doctrine, Organization, Training, Materiel, Leadership, Personnel and Facilities
551	DR	Disaster Relief
552	DPMO	Deployment Process Modernization Office
553	ESG	Expeditionary Strike Group
554	EUL	End of Useful Life
555	GWOT	Global War On Terrorism
556	HA	Humanitarian Assistance
557	HSV	High Speed Vessel
558	ICD	Initial Capabilities Document
559	JFC	Joint Force Commander
560	JHSV	Joint High Speed Vessel
561	JIC	Joint Integrating Concept
562	HLD	Homeland Defense
563	JopsC	Joint Operations Concepts
564	LCAC	Landing Craft, Air Cushion
565	LCS	Littoral Combat Ship
566	LCU	Landing Craft, Utility
567	MAGTF	Marine Air Ground Task Force
568	MCCDC	Marine Corps Combat Development Command
569	MEB	Marine Expeditionary Brigade
570	MPF(F)	Maritime Prepositioning Force (Future)
571	MPG	Maritime Prepositioning Group
572	MSR	Main Supply Route
573	NEO	Non-combatant Evacuation Operations
574	NOC	Naval Operating Concepts for Joint Operations
575	OFMTS	Operational Maneuver From The Sea

Subj: INITIAL CAPABILITIES DOCUMENT FOR JOINT HIGH SPEED INTRA-THEATER SURFACE LIFT  
Papers: For Official Use Only

576	ORD	Operational Requirements Document
577	PACSCAT	Partial Air Cushion Supported Catamaran
578	POM	Program Objective Memorandum
579	QDR	Quadrennial Defense Review
580	R&D	Research and Development
581	RAC	Riverine Assault Craft
582	RRC	Rigid Raider Craft
583	SASO	Stability And Support Operations
584	SLEP	Service Life Extension Program
585	SOF	Special Operations Forces
586	SOC	Special Operations Capable
587	STOM	Ship-To-Objective Maneuver
588	SURC	Small Unit Riverine Craft
589	TSV	Theater Support Vessel
590	UEx/y	Army Units of Action
591	UJTL	Universal Joint Task List
592	UNTL	Universal Naval Task List
593	USV	Unmanned Surface Vehicle
594	UUV	Unmanned Underwater Vehicle

**Appendix D**

**Universal Joint Task List (UJTL) – Strategic Level Theater Tasks**

1. ST1: Deploy, Concentrate, and Maneuver Theater Forces
  - a. ST 1.1 Conduct Intra-theater Strategic Deployment
  - b. ST 1.2 Assemble Forces
  - c. ST 1.3 Conduct Theater Strategic Maneuver and Force Positioning
  - d. ST 1.6 Control or Dominate Strategically Significant Area(s)
2. ST4: Sustain Theater Forces
  - a. ST 4.2 Coordinate Support for Forces in Theater
  - b. ST 4.3 Establish and Coordinate Distribution of Supplies/Services for Theater Campaign and COMMZ
3. ST8: Develop and Maintain Alliance and Regional Relations
  - a. ST 8.2 Provide Support to Allies, Regional Governments, International Organizations or Groups
  - b. ST 8.4 Provide Theater Support to other DoD and Government Agencies

**UJTL Operational Level Tasks**

1. OP1: Conduct Operational Movement and Maneuver
  - a. OP 1.1 Conduct Operational Movement
  - b. OP 1.2 Conduct Operational Maneuver and Force Positioning
  - c. OP 1.3 Provide Operational Mobility
  - d. OP 1.5 Control Operationally Significant Area
  - e. OP 1.6 Conduct Patient Evacuation
2. OP2: Provide Operational Intelligence, Surveillance and Reconnaissance
3. OP3: Employ Operational Firepower
  - a. OP 3.2 Attack Operational Targets (OP3.2.5.3)
  - b. OP 3.3 Conduct Peace Operations in the Joint Operations Area (JOA)
4. OP4: Provide Operational Logistics and Personnel Support
  - a. OP 4.1 Coordinate Supply of Arms, Munitions, and Equipment in the Joint Operations Area (JOA)
  - b. OP 4.3 Provide for Maintenance of Equipment in the Joint Operations Area (JOA)
  - c. OP 4.4 Coordinate Support for Forces in the Joint Operations Area (JOA)
  - d. OP 4.5 Manage Logistic Support in the Joint Operations Area (JOA)
  - e. OP 4.6 Build and Maintain Sustainment Bases in the Joint Operations Area (JOA)
  - f. OP 4.7 Provide Politico-Military Support to other Nations, Groups and Government Agencies.

- 5. OP6: Provide Operational Force Protection
  - a. OP 6.2 Provide Protection for Operational Forces, Means and Noncombatants
  - b. OP 6.4 Conduct Military Deception in Support of Subordinate Campaigns and Major Operations
  - c. OP 6.5 Provide Security for Operational Forces and Means

**UJTL Tactical Level Tasks**

- 1. TA 1 Deploy/Conduct Maneuver
  - a. TA1.1.4 Conduct Sea and Air Deployment Operations
  - b. TA1.3 Conduct Countermining Operations
- 2. TA 4 Perform Logistics and Combat Service Support
  - a. TA 4.2 Distribute Supplies and Provide Transport Services
  - b. TA 4.4 Conduct Joint Logistics Over-The-Shore Operations
- 3. TA 6 Protect the Force
  - a. TA 6.4 Conduct Noncombatant Evacuation Operations

**Army Universal Task List (AUTL) Tasks**

1. ART 1.0: The Intelligence Battlefield Operating System
  - a. ART 1.1 Intelligence Support to the Commander's Visualization and Understanding of the Threat and Environment
    - 1) ART 1.1.1 Perform Intelligence Preparation of the Battlefield (IPB)
    - 2) ART 1.1.1.1 Define the Battlefield Environment
    - 3) ART 1.1.1.2 Describe the Battlefield's Effects
    - 4) ART 1.1.2 Perform Indications and Warnings
    - 5) ART 1.1.3 Perform Situation Development
  - b. ART 1.3 Intelligence, Surveillance and Reconnaissance (ISR)
    - 1) ART 1.3.2 Conduct Surveillance
    - 2) ART 1.3.3 Conduct Tactical Reconnaissance
2. ART 2.0: The Maneuver Battlefield Operating System
  - a. ART 2.1 Perform Tactical Actions Associated with Force Projection and Deployment
    - 1) ART 2.1.2 Conduct Tactical Deployment/Redeployment Activities
  - b. ART 2.2 Conduct Tactical Maneuver
    - 1) ART 2.2.5 Exploit Terrain to Expedite Tactical Movements
    - 2) ART 2.2.11 Conduct a Survivability Move
  - c. ART 2.3 Conduct Tactical Troop Movements
3. ART 5.0: The Mobility/Counter mobility/Survivability Battlefield Operating System
  - a. ART 5.1 Conduct Mobility Operations
    - 1) ART 5.1.1 Overcome Barriers/Obstacles/Mines
    - 2) ART 5.1.2 Enhance Movement and Maneuver
  - b. ART 5.3 Conduct Survivability Operations
    - 1) ART 5.3.1 Protect Against Enemy Hazards in the AO
    - 2) ART 5.3.2.1.4 Report NBC Hazards throughout the Area of Operations
    - 3) ART 5.3.5 Conduct Security Operations
4. ART 6.0: The Combat Service Support Battlefield Operating System
  - a. ART 6.1 Provide Supplies
  - b. ART 6.3 Provide Transportation Support
    - 1) ART 6.3.1.3 Conduct Maneuver and Mobility Support Operations
    - 2) ART 6.3.1.4 Provide In-Transit Visibility
    - 3) ART 6.3.3 Conduct Mode Operations
    - 4) ART 6.3.3.1 Move by Surface
    - 5) ART 6.3.3.3 Conduct Water Transport Operations
  - c. ART 6.12 Provide Distribution Management
5. ART 7.0: The Command and Control Battlefield Operating System
  - a. ART 7.1 Establish Command Post Operations
  - b. ART 7.2 Manage Tactical Information
    - 1) ART 7.2.1 Collect Relevant Information
    - 2) ART 7.2.2 Process Relevant Information to Create a Common Operational Picture

- 699 3) ART 7.2.3 Display a Common Operational Picture (COP) Tailored to User Needs
- 700 4) ART 7.2.4 Store Relevant Information
- 701 5) ART 7.2.5 Disseminate Common Operational Picture (COP) Tailored to User Needs
- 702 c. ART 7.3 Assess Tactical Situation and Operations
- 703 d. ART 7.4 Plan Tactical Operations Using the Military Decision Making Process/Troop
- 704 Leading Procedures
- 705 1) ART 7.4.1 Conduct the Military Decision Making Process
- 706 e. ART 7.5 Prepare for Tactical Operations
- 707
- 708 6. ART 8.0: Conduct Tactical Mission Tasks and Operations
- 709 a. ART 8.5 Conduct Tactical Mission Tasks
- 710 1) ART 8.5.4 Bypass enemy Obstacles/Forces/Positions
- 711 2) ART 8.5.21 Occupy an Area
- 712
- 713
- 714

**Universal Naval Task List (UNTL) – Operational Level Tasks**

1. OP 1 Conduct Operational Movement and Maneuver
  - a. OP 1.1 Conduct Operational Movement
    - 1) OP 1.1.2 Conduct Intratheater Deployment and Redeployment of Forces Within the JOA
    - 2) OP 1.1.3 Conduct Joint RSOI in the JOA.
  - b. OP 1.2 Conduct Operational Maneuver and Force Positioning
    - 1) OP 1.2.2 Posture Joint Forces for Operational Formations
    - 2) OP 1.2.3 Assemble Forces in the JOA
    - 3) OP 1.2.4 Conduct Operations in Depth
    - 4) OP 1.2.7 Conduct retrograde Operations in the JOA
  - c. OP 1.3 Provide Operational Mobility
    - 1) OP 1.2.1 Overcome Operationally Significant Barriers, Obstacles and Mines
  - d. OP 1.6 Conduct Patient Evacuation
2. OP 4 Provide Operational Logistics and Personnel Support
  - a. OP 4.1 Coordinate Supply of Arms, Munitions, and equipment in the JOA
  - b. OP 4.5 Manage Logistic Support in the JOA
    - 1) OP 4.5.1 Provide for Movement Services in the JOA
    - 2) OP 4.5.2 Supply Operational Forces

**Universal Naval Task List (UNTL) – Joint Interoperability/Tactical Level Tasks**

1. TA 1 Deploy/Conduct Maneuver
  - a. TA 1.1 Position/Reposition Tactical Forces
2. TA 4 Perform Logistics and Combat Service Support
  - a. TA 4.2 Distribute Supplies and Provide Transport Services
  - b. TA 4.4 Conduct Joint Logistics Over-the-Shore Operations
3. TA 6 Protect the Force
  - a. TA 6.4 Conduct Noncombatant Evacuation Operations

**APPENDIX E**

**LESSONS LEARNED**

**HSV-2 SWIFT**

1. HSV 2 Swift Mine Warfare (MIW) Mission Modules Lessons Learned 2003-2004 Overview, (CTF 21 DTG 161934Z Oct 04), Commander Task Force 21, 16 October 2004
2. HSV 2 Swift Sea Frame Lessons Learned (2003-2004) Overview, (CTF 21 DTG 161935Z Oct 04), Commander Task Force 21, 16 October 2004
3. HSV 2 Swift RIMPAC 04 Transit Lessons Learned, (HSV 2 Swift DTG 122255Z Sep 04), HSV 2 Swift, 12 September 2004
4. NAVSEA Instrumented Rough Water Trials Update, (HSV 2 Swift DTG 140631Z May 04), HSV 2 Swift, 14 May 2004
5. NAVSEA Instrumented Rough Water Trials Update, (HSV 2 Swift DTG 130631Z May 04), HSV2 Swift, 13 May 2004
6. Instrumented Trials Sea Limits, (HSV 2 Swift DTG 110945Z May 04), HSV 2 Swift, 11 May 2004
7. HSV 2 Swift Lessons Learned ISO Blue Game-04, (HSV 2 Swift DTG 141245Z May 04), HSV 2 Swift, 14 May 2004
8. HSV 2 Swift Lessons Learned ISO JLOTS-04, (HSV 2 Swift DTG 092247Z Mar 04), HSV 2 Swift, 9 March 2004
9. HSV 2 Swift Lessons Learned 2004-01-Sea Frame, (HSV 2 Swift DTG 271839Z Feb 04), HSV 2 Swift Little Creek, Virginia, 27 February 2004
10. High Speed Vessel (HSV) 2 Swift Medical Limited Objective (LOE), 15-16 December 2003 QuickLook, (NWDC DTG 081139Z Jan 04), Commander Naval Warfare Development Command, 8 January 2004
11. Survey Report High Speed Connector Port Accessibility: Indian Head, Maryland, High Speed Connector Project Office, June 2004
12. High Speed Connector Experimentation Report: Joint Logistics-Over-The-Shore (JLOTS) 2004, Marine Corps Warfighting Laboratory, 6 July 2004
13. Causeway and UH60 Interoperability LOE 16 December 2003, Marine Corps Combat Development Command, Undated
14. H-60A Transportability Assessment HSV-2 Swift, USMC HSV Project Office, 15 December 2003
15. High Speed Connector Experimentation Report: West African Training Cruise (WATC) 2004, Marine Corps Warfighting Laboratory, 28 April 2004

**HSV-X1 JOINT VENTURE**

1. Officer In Charge, Joint Venture (HSV-X1) Final Report, 30 September 2003
2. Transportability Analysis of Vessel Loading During Millennium Challenge 2002, Military Traffic Management Command-Transportation Engineering Agency, 29 October 2002
3. QuickLook Report Fleet Battle Experiment Juliet, Commander Naval Warfare Development Command, 27 August 2002
4. Joint Venture (HSV-X1) Exercise Strong Resolve 02 QuickLook Report, Commander Naval Warfare Development Command, 29 March 2002
5. Joint Venture (HSV-X1) Lessons Learned 11 September – 20 March 2002
6. Assessment Report: Joint Venture (HSV-X1) Limited Objective Experiment “1-03”, Marine Corps Warfighting Lab, Quantico, Virginia, 10-12 December 200
7. High Speed Final Experimentation Report (FY02), Marine Corps Warfighting Laboratory, 17 September 2002
8. Millennium Challenge 02 Limited Objective Experiment Joint High Speed Vessel Analysis Report, Marine Corps Warfighting Laboratory, Quantico, Virginia, 16 August 2002
9. Battle Griffin 02 Limited Objective Experiment QuickLook Report, Marine Corps Warfighting Laboratory, Quantico, Virginia, 10 April 2002



10. After Action Report for *Joint Venture HSV-X1*, North Sea Anti-Terrorism Operation and Evaluation, Marine Corps Security Force Company, 21 March 2002
11. Bulk Fuel Company, 2<sup>nd</sup> Engineer Support Battalion LOE, QuickLook Report, Marine Corps Warfighting Laboratory, Quantico, Virginia, 7 February 2002
12. Joint Venture HSV-X1 Limited Objective Experiment (LOE): QuickLook Report, Marine Corps Warfighting Laboratory, 11 December 2001
13. Quick-Look Report: Joint High Speed Vessel (Vehicle Interoperability), Marine Corps Warfighting Laboratory, Quantico, Virginia, 15 November 2001
14. Experimental Embarkation Summary Statistics, LOE 4 Annex BG 02 Final EMBA, Marine Corps Warfighting Laboratory, Quantico, Virginia, Undated

### **TSV-1X SPEARHEAD**

1. Addendum to 3 March 2004 Point Paper Spearhead-Theater Support Vessel (TSV-1X) Cargo Handling System Evaluation, Surface Deployment and Distribution Command, Transportation Engineering Agency, 14 June 2004
2. Spearhead – Theater Support Vessel (TSV-1X) Cargo Handling System Evaluation, Surface Deployment and Distribution Command, Transportation Engineering Agency, 3 March 2004
3. Spearhead Principal Particulars, Incat/Bollinger, Undated

## **TECHNICAL REPORTS**

### **HSV-X1 JOINT VENTURE**

1. QuickLook Report Joint Venture (HSV-X1) Seakeeping and Structures Measurements on USMC Load-Outs, Carderock Division, Naval Surface Warfare Center, Undated (Distributed to DOD & DOD Contractors Only)
2. Joint Venture (HSV-X1) Seakeeping and Structures Measurements from October 2001-November 2002, Naval Surface Warfare Center Carderock Division, August 2003
3. QuickLook Report Joint Venture (HSV-X1) Seakeeping and Structures Measurements on Transatlantic, North Sea, and Baltic Sea Trials, Naval Surface Warfare Center Carderock Division, Undated
4. QuickLook Report Joint Venture (HSV-X1) Seakeeping and Structures Measurements on Newport Sea Trials November 2002, Naval Surface Warfare Center Carderock Division, Undated

### **M/V WESTPAC EXPRESS**

1. Propulsion and Miscellaneous Trials Austal 101m High Speed Catamaran WESTPAC Express, Naval Surface Warfare Center Carderock Division, October 2002

### **MOGAS**

1. Development of MOGAS Stowage for HSV-2, Naval Sea Systems Command – document pending final signature

### **MEDICAL LOE's**

1. High Speed Vessel (HSV) 2 Swift Medical Limited Objective Experiment (LOE) 14-16 December 2004 Quick Look, Commander Naval Warfare Development Command, 6 January 2005
2. Newport, Rhode Island Medical Seabasing War Games IIA and IIB Post Game Report, Final Report, War Games Examining en Route Medical Care Sponsored by the Navy Warfare Development Command and Hosted by the United States Naval War College 9-11 March, and 27-29 April, 2004, 27 September 2004

Subj: INITIAL CAPABILITIES DOCUMENT FOR JOINT HIGH SPEED INTRA-THEATER SURFACE LIFT  
Papers: For Official Use Only

- 854           3. High Speed Vessel (HSV) 2 Swift Medical Limited Objective (LOE), 15-16 December 2003 QuickLook,  
855           Commander Naval Warfare Development Command, 8 January 2004  
856  
857